

COMMENTARY

Pica may be harmful to the fetus and mother

Simpson and colleagues found that 31% of a sample of Mexican-born women living in southern California practiced pica during pregnancy. The prevalence for a sample of women living in Mexico was 44%. Because these samples were not representative, however, these results may not be generalizable to a wider population. Some ingested substances were benign, such as ice. Others were potentially harmful, such as magnesium carbonate, or clearly toxic, such as paint thinner and battery acid. Although pica has been described in other populations, this is the first report describing the practice of pica in these specific communities.

This study is of possible public health importance, particularly in California. Nearly half of all births in this state are to Latinas (47% in 1998), and nearly three quarters of Latinas giving birth in California were born in Mexico and Central America (71% in 1998). Although pica itself has not been implicated, there is a theoretic risk that it may result in maternal and fetal harm. Excessive magnesium carbonate ingestion by a person with impaired renal function, for example, may pose such risks. Elevated magnesium blood concentrations can cause depressed maternal respiratory and cardiac rates or depressed fetal heart rate activity.¹⁻³ The use of magnesium sulfate infusions in the third trimester of pregnancy for tocolysis has been linked to impaired formation of fetal bones and hypoplasia of the dental enamel.^{4,5}

Future studies should ascertain the prevalence of pica in the Latino community more broadly, using representative samples. In particular, the prevalence of pica among other Latino subgroups common to southern California, such as Central and South Americans, should be determined. Furthermore, pica should be studied among those born in the United States as well as Latina women born elsewhere to ascertain if differences exist between these 2 groups. In a recent study of pregnant immigrant and US-born women living in south-central Los Angeles, an area with many resident Latinos, blood lead concentrations among immigrants were significantly higher than among US-born women.⁶ The authors implicated the practice of pica as one cause of the higher lead concentrations among the immigrant women. Interestingly, the blood lead concentrations among the immigrant women were inversely correlated with their length of time in the United States.

Other variables that should be studied in association with pica include generational status and accultura-

tion. More detailed studies of the prevalence of pica among Latino subgroups will help target interventions. The prevalence of health-related behaviors, such as smoking,⁷ alcohol consumption,⁸ and dietary habits,⁹ changes from first- to second-generation Latinos. Greater acculturation, meaning greater adoption of US cultural norms, has been linked to a higher prevalence of unhealthy behaviors and worse birth outcomes among Latina women.¹⁰

Interventions to control pica among Latinos may be hampered by the welfare reforms of 1996, which reduced or eliminated access to care for many immigrants. Legal immigrants are not claiming all the public benefits that they are fully entitled to receive, including Medicaid.¹¹ Because many health promotion and disease prevention interventions are based in populations enrolled in public programs, interventions to reduce pica may fail to reach these groups.

Leo Morales
David Hayes-Bautista
Division of General
Internal Medicine and
Health Services Research
Department of Medicine
University of California,
Los Angeles
School of Medicine
911 Broxton Plaza, Rm
211

Box 951736
Los Angeles, CA
90095-1736

Correspondence to:
Dr Morales
morales@rand.org

Competing interests:
None declared

West J Med
2000;173:25

References

- Hankins GD, Hammond TL, Yeomans ER. Amniotic cavity accumulation of magnesium with prolonged magnesium sulfate tocolysis. *J Reprod Med* 1991;36:446-449.
- Lin CC, Pielert BW, Poon E, et al. Effect of magnesium sulfate on fetal heart rate variability in preeclamptic patients during labor. *Am J Perinatol* 1988;5:208-213.
- Carlan SJ, O'Brien WF. The effect of magnesium sulfate on the biophysical profile of normal term fetuses. *Obstet Gynecol* 1991;77:681-684.
- Holcomb WL Jr, Shackelford GD, Petrie RH. Prolonged magnesium therapy affects fetal bone. *Am J Obstet Gynecol* 1991;164:386.
- Lamm CI, Norton KI, Murphy RJC, et al. Congenital rickets associated with magnesium sulfate infusion for tocolysis. *J Pediatr* 1988;113:1078-1082.
- Rothenberg SJ, Manalo M, Jiang J, et al. Maternal blood lead level during pregnancy in South Central Los Angeles. *Arch Environ Health* 1999;54:151-157.
- Sundquist J, Winkleby MA. Cardiovascular risk factors in Mexican American adults: a transcultural analysis of NHANES III, 1988-1994. *Am J Public Health* 1999;89:723-730.
- Aguiar-Molina M, Caetano R. Alcohol use and alcohol-related issues. In: Molina CW, Aguiar-Molina M, eds. *Latino Health in the U.S.: A Growing Challenge*. Washington, DC: American Public Health Association; 1994:393-424.
- Guendelman S, Adams B. Dietary intake among Mexican-American women: generational differences and a comparison with white non-Hispanic women. *Am J Public Health* 1995;85:20-25.
- Scribner R, Dwyer JH. Acculturation and low birthweight among Latinos in the Hispanic HANES. *Am J Public Health* 1989;79:1263-1267.
- Fix M, Passel JS. *Trends in Noncitizens' and Citizens' Use of Public Benefits Following Welfare Reform: 1994 - 1997*. Washington, DC: The Urban Institute; 1999.